

### **What is Claimed is:**

1. A method for processing perfluorocompounds (PFCs) exhaust, comprising the steps of:
  - (a) introducing the PFCs exhaust and steam into a reacting chamber after passing through a plasma torch and subjecting the PFCs to instantaneous pyrolysis to produce exhaust products, the steam being supplied by a steam conduit encircling the reacting chamber;
  - (b) introducing external air into a combustion chamber to react with exhaust products in the combustion chamber;
  - (c) dissolving HF in the exhaust products in a water tank set and removing fine solid molecules in the exhaust products and precipitated in the water tank set; and
  - (d) processing the remaining exhaust products by a wet washing tower.
2. The method for processing perfluorocompounds exhaust of Claim 1, wherein the steam in the steam conduit is converted from liquid water flowing the steam conduit by heat produced by the reactions of the PFCs exhaust in the reacting chamber.
3. The method for processing perfluorocompounds exhaust of Claim 2, wherein the liquid water is circulating water originates from the water tank set.
4. The method for processing perfluorocompounds exhaust of Claim 1, wherein the external air is introduced into the combustion chamber by means of a regulating valve.
5. The method for processing perfluorocompounds exhaust of Claim 4, wherein the combustion chamber includes a plurality of regulating valves.
6. The method for processing perfluorocompounds exhaust of Claim 1, wherein the steam conduit reduces temperature of the reacting chamber during combustion.
7. A method for processing perfluorocompounds exhaust, comprising the

steps of:

- (a) introducing the PFCs exhaust and steam into a reacting chamber after passing through a plasma torch and subjecting the PFCs to instantaneous pyrolysis to produce exhaust products;
  - (b) introducing external air into a combustion chamber to react with exhaust products in the combustion chamber;
  - (c) processing the exhaust products in a water tank set; and
  - (d) processing the remaining exhaust products by a wet washing tower.
8. The method for processing perfluorocompounds exhaust of Claim 7, wherein the steam is supplied by a steam conduit encircling the reacting chamber, and the steam in the steam conduit is converted from liquid water flowing the steam conduit by heat produced by the reactions of the PFCs exhaust in the reacting chamber.
9. The method for processing perfluorocompounds exhaust of Claim 8, wherein the liquid water is circulating water originates from the water tank set.
10. The method for processing perfluorocompounds exhaust of Claim 7, wherein the combustion chamber is connected to a downstream of the reacting chamber.
11. The method for processing perfluorocompounds exhaust of Claim 7, wherein combustion chamber includes a plurality of regulating valves.
12. The method for processing perfluorocompounds exhaust of Claim 7, wherein the steam conduit reduces temperature of the reacting chamber during combustion...
13. A method for processing perfluorocompounds exhaust, comprising the steps of:
- (a) introducing the PFCs exhaust and steam into a reacting chamber after passing through a plasma torch and subjecting the PFCs to instantaneous pyrolysis to produce exhaust products, the steam being supplied by a steam conduit encircling the reacting chamber;

- (b) dissolving HF in the exhaust products in a water tank set and removing fine solid molecules in the exhaust products and precipitated in the water tank set; and
  - (c) processing the remaining exhaust products by a wet washing tower.
14. The method for processing perfluorocompounds exhaust of Claim 13, wherein the steam in the steam conduit is converted from liquid water flowing the steam conduit by heat produced by the reactions of the PFCs exhaust in the reacting chamber.
  15. The method for processing perfluorocompounds exhaust of Claim 14, wherein the liquid water is circulating water originates from the water tank set.
  16. The method for processing perfluorocompounds exhaust of Claim 13, wherein the steam conduit reduces temperature of the reacting chamber during combustion.